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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,827	03/23/2004	Yoji Nagase	1324.70101	4226

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EXAMINER

HAILEMARIAM, EMMANUEL

ART UNIT	PAPER NUMBER
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2609

MAIL DATE	DELIVERY MODE
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05/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/806,827	NAGASE, YOJI	
	Examiner	Art Unit	
	Emmanuel Hailemariam	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03/23/04 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/23/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. Figs. 25,26,27 and 28 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "**pre-writing data voltage**" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claim 1,2,5-12 are rejected under 35 U.S.C. 102(a) as being anticipated by Applicant's Admitted Prior Art (APPA).

As to Claim1, AAPA discloses a method of driving an active matrix type liquid crystal display panel, comprising the step of: performing a pre-scanning (see figs 26-

Art Unit: 2609

28(pre-scan) and a main scanning ((see figs.26-28 (main scan)) to each horizontal line; wherein a gate signal (see fig 26-28 (12) is raised in the main scanning ((see fig.5 (DP1) col.7 lines 6-8) at a timing on or after a timing at which a data signal is varied (see figs. 26-28 (10) varies with respect to time).

As to claim 2, AAPA discloses a method of driving a liquid crystal display panel according to the timing for raising the gate signal (12) relative to the data signal(10) in the pre-scanning is the same as the timing for raising the gate signal relative to the data signal in the main scanning (see fig 26-28).

As to claim 5, AAPA discloses a method of driving an active matrix type liquid crystal display panel, comprising the step of performing a pre-scanning and a main scanning to each horizontal line ((see figs.26-28 (main scan)) wherein a predetermined period in one scanning period is allocated to pre-writing data voltage period , and a data voltage in the pre-writing data voltage period is used as a predetermined pre-writing data voltage (see fig 27).

As to claim 6 AAPA discloses a method of driving a liquid crystal display panel according to the predetermined pre-writing data voltage is the one of an intermediate gray scale [0019](see fig.26 and 27).

As to claim 7, AAPA discloses a method of driving a liquid crystal display panel according to claim 5, wherein the predetermined pre-writing data voltage is the one between a white voltage and a black voltage of the same polarity as the polarity of the data signals in the main scanning [0019] (see, fig (26,28).

As to claim 8, AAPA discloses a method of driving a liquid crystal display panel according to claim 5, wherein the predetermined pre-writing data voltage is an average gray scale voltage in a frame period for pixels (it is implicit that for LCD to have pixels on it, since each pixels is a point in a graphic image) along the data line [0019] (see fig. 26,27center of data signal).

As to claim 9, AAPA discloses a method of driving a liquid crystal display panel according to claim 5, wherein the predetermined pre-writing data voltage is the one during a main scanning period when the pre-scanning (see figs 26-28(pre-scan) is just preceding the main scanning ((see figs.26-28 (pre scan) .

As to claim 10, APPA discloses a method of driving a liquid crystal display panel according to claim 5, wherein the pre-writing data voltage is a voltage that is corrected by an amount of change in a pixel voltage stemming from the break-down of the gate signal at the end of the pre-scanning (see figs 26-28).

Art Unit: 2609

As to claim 11, AAPA discloses a method of driving an active matrix type liquid crystal display panel, comprising the step of: performing a pre-scanning (see figs 26-28(pre-scan) and a main scanning to each horizontal line) ((see figs.26-28 (main scan) ; wherein a gate-off voltage between the pre-scanning period and the main scanning period is set to be higher than the gate-off (see fig.25) voltage after the main scanning period ((see figs.26-28 (main scanning)).

As to claim 12, AAPA discloses an active matrix type liquid crystal display panel comprising a drive circuit driven by a method of driving a liquid crystal display panel [0005].

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 & 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (APPA) (Fig.25,26,27 and 28) in view of Yasukatsu et al (JP Pub. Num. 09-274170), hereinafter referred to as Yasukatsu.

As to claims 3 and 4, AAPA discloses a method of driving an active matrix type liquid crystal display panel, comprising the step of: performing a pre-scanning (see

Art Unit: 2609

figs 26-28(pre-scan) and a main scanning to each horizontal line (see figs.26-28 (main scan)); an on-voltage of a gate signal in the pre-scanning is different from an on-voltage (see fig.27).

AAPA does not teach, a length of the pre-scanning period different from a length of the main scanning period.

Yasukatsu, on the other hand, teaches a method wherein a length of the pre-scanning period (Yasukatsu teaches the length of the preparatory write-period is contained in the 1st half of the selection period) is different from a length of the main scanning period (Yasukatsu teaches the length of the write-in period is half of the second half of the selection period). (See Abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify AAPA method by making the length of the pre-scanning period different from a length of the main scanning period. The motivation to have different lengths of period for pre-scanning and scanning is to prevent the over-heating of the LCD as stated by Yasukatsu in the abstract.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Law et al. (6483494) disclose multistage charging circuit for driving Liquid Crystal Display. Nitta et al (6661402). Liquid Crystal Display driver circuit and LCD having fast data write capability. Waterman (2002/0075221) disclose a frame prewriting in a Liquid crystal Display.

Correspondence

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Hailemariam whose telephone number is 571-270-1545. The examiner can normally be reached on M-F 8:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


AMARE MENGISTU
SUPERVISORY PATENT EXAMINER